

Effective Date: 07/01/2014

Revised Date:

**FIRE INVESTIGATIONS****Purpose**

The purpose of this document is to establish guidelines for the safe and systematic investigation or analysis of fire or explosion incidents. Fire investigation or analysis and the accurate listing and documentation of origin and cause is fundamental to the protection of lives and property from the threat of hostile fire or explosion.

Policy:

- I. This policy is a systematic process for a fire origin and cause determination. This document is not intended to be all-inclusive. This is a guideline for the investigative process and is based on nationally recognized guidelines, standards and processes.
- II. Incidents involving structure fire or explosion shall be investigated by Fire and Law Enforcement personnel.
 - a. Fire/explosion investigations with the County of Valencia are a joint operation between the Fire Department and Law Enforcement.
 - b. Valencia County Emergency Services and Valencia County Sheriff's Department have different responsibilities inherent to each agency and specialized abilities and resources and will assist one another during the investigation process. The responsibilities listed below are generally assigned at the scene when a fire or explosion is investigated for origin and cause:
 - c. VCSO primary responsibilities are traffic, crowd control, and criminal investigation.
 - d. VCES primary responsibilities are fire suppression, rescue activities, scene safety, and EMS. No person from any agency will be permitted to enter the scene until cleared by Incident Command.
 - e. VCES and VCSO will protect and preserve the scene and the collect evidence. Protection of the scene requires the denial of access by unauthorized persons. Preservation normally involves the documentation and collection of evidence in conjunction with not disturbing the scene unless necessary to carry out firefighting/rescue activities, or ensuring safety.
 - f. VCSO or VCES has the responsibility for evidence documentation and collection. VCES shall provide appropriate and adequate equipment, supplies, and materials to meet the fire investigation needs. VCES or State Fire Marshal will incur responsibility in the event VCSO is unavailable to assist.



Effective Date: 07/01/2014

Revised Date:

FIRE INVESTIGATIONS

- g. VCES and VCSO crime scene search is a cooperative effort between each department and will have at least one representative present. If a fire fatality occurs in the county, call the State Fire Marshal Office (FMO) as a resource.
- h. The State Fire Marshal's Office can be utilized as a resource and can be reached through state radio dispatch at 505-827-3723.
- i. VCES will maintain investigation kits accessible to fire investigators. The kits will be available at Fire Administration as well as VCES command units. VCES and VCSO shall have available containers and seals suitable for the evidence collection and preservation. .
- j. VCES and VCSO will coordinate the release of information to the media, family members, property owners, business owners, and insurance agencies by designating a single point of contact.
- k. All VCES fire investigators shall be trained in Fire Origin and Cause determination by the International Association of Arson Investigators (IAAI) or New Mexico Firefighter's Training Academy (NMFTA). VCES Fire Investigators must obtain IFSAC Fire Investigator I prior to conducting any investigation of a fire/explosion.
- l. All VCES fire investigators shall receive training on National Fire Protection Association (NFPA) Standard 921, Guide for Fire and Explosion Investigations and (NFPA) Standard 1033, and the Standard for Professional Qualifications for Fire Investigator.
 - i. VCES and VCSO staff charged with the responsibility of investigating and analyzing fire and explosion incidents, and rendering opinions as to the origin, cause, responsibility, or prevention of such incidents and shall utilize the most current edition of NFPA 921, Guide for Fire and Explosion Investigations.
- m. The Incident Commander on scene shall notify the Fire Marshal or his designee of all responses to fire/explosions.
- n. The Incident Commander on scene shall ensure that a qualified on-duty fire investigator is assigned to assist the fire investigation team.
- o. If the on scene investigator feels the need to warrant a second investigator an additional investigator can be requested through the Incident Commander.
- p. The Fire Investigation leader shall ensure that fire investigator safety is addressed to maximize investigative efforts and comply with nationally recognized standards.



Effective Date: 07/01/2014

Revised Date:

FIRE INVESTIGATIONS

III. Fire Scene Examination

- a. Backwards theory investigation is by starting from the least damaged to the most heavily damaged areas. Examine the entire occupancy including rooms or areas where no fire damage occurred. Note the direction of heat flow, lowest point of burning, ceiling damage, fire patterns, glass char, line of demarcation, signs of forced entry, etc.
- b. Utilize the scientific method to investigate and to determine the origin and cause.
- c. Recognize the need: First, one should determine that a problem exists. In this case, a fire or explosion has occurred and the cause should be determined and listed so that future, similar incidents can be prevented.
- d. Define the problem: Having determined that a problem exists, the investigator(s) should define in what manner the problem can be solved. In this case, a proper origin and cause investigation must be conducted.
- e. If a fire death is discovered, the Office of the Medical Investigator (OMI) must be notified immediately to allow for evidence collection and coordination with the fire investigator.
- f. Collect data: Facts about the incident are now collected. This is done by observation, experiment, or other direct data gathering means. The data collected is called empirical data because it is based on observation or experience and is capable of being verified or known to be true. All original pictures on the SD memory card will be saved and placed as evidence on a DVD recordable disk and attached to the case file. A second file will be created and stored on a department external hard drive and stored at Valencia County Fire Administration. **DO NOT DELETE OR ALTER ANY PHOTOS ON THE ORIGINAL DISK.**
- g. Analyze the data: All of the collected and observed information is analyzed by inductive reasoning. This is the process in which the total body of empirical data collected is carefully examined in the light of the investigator's knowledge, training, and experience. Subjective or speculative information will not be included in the analysis, only facts that can be clearly proven by observation or experiment.
- h. Develop a hypothesis: (Inductive Reasoning). Based on the data analysis, the investigator produces a hypothesis, or hypotheses, to explain the phenomena, whether it be the nature of fire patterns, fire spread, identification of the origin, the ignition sequence, the fire cause, or the cause of damage or responsibility for the fire or explosion incident.



Effective Date: 07/01/2014

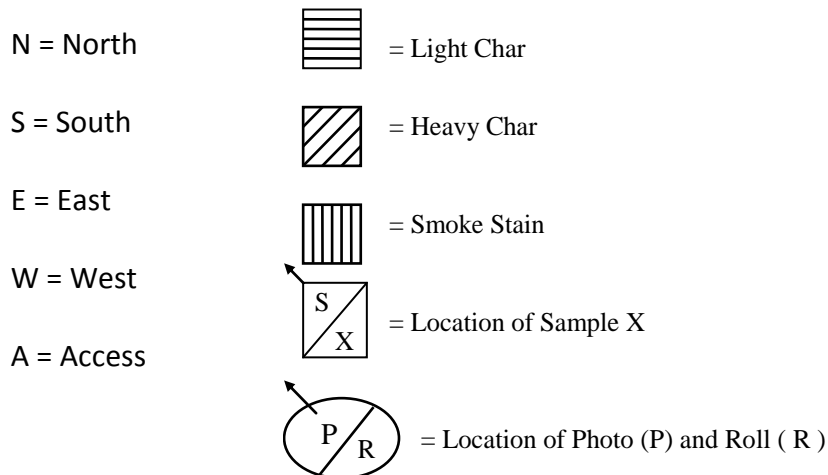
Revised Date:

FIRE INVESTIGATIONS

- i. Test the hypothesis: (Deductive Reasoning). All other reasonable origins and causes must be eliminated. The investigator does not have a provable hypothesis unless it can stand the test of careful and serious challenge. This is done by the principal of deductive reasoning's, in which the investigator compares his/her hypothesis to all known facts. If the hypothesis cannot withstand an examination by deductive reasoning, it must be discarded as not provable. Challenge the Hypothesis.

IV. Documentation/Recording

- a. All pertinent information gathered from the scene of a Structure or vehicle fire must be documented. Gathering notes, sketches, photos, interviews, evidence, and facts will help the investigator in determining the origin and cause of the fire. (i.e., facts, observations, questions and answers, incident information, scene information, suppression information, etc.)
- b. Sketching is yet another step in the documentation of evidence, and involves preparing diagrams/sketches of measurements for the location of evidence. The rough sketch is made at the scene of the investigation after the preliminary search of the scene, but before movement or removal of any evidence. The legend is an explanation of the signs, symbols, or characters used in the sketch and must be consistent with the ones appearing in the legend, examples: (See Attachment B and C).





Effective Date: 07/01/2014

Revised Date:

FIRE INVESTIGATIONS

- c. Photography is used as a visual representation of the fire scene, and can be made by using either, film, digital photography, or video photography. VCES shall utilize these media whenever possible and as soon as practical. Log all photography utilizing VCES photo/evidence log. When photographing investigations all photos shall be saved on to an "SD Memory Cards". These cards shall be utilized for the fire investigation only. The photos will then be uploaded to a DVD recordable disk then attached to the report. **DO NOT DELETE OR ALTER ANY PHOTOS ON THE ORIGINAL DVD DISK.** All photos shall be cataloged as evidence even "mistakes".
- d. VCES Investigative Report(s) shall provide a description of the time, date, incident number, address, manner of dispatch, investigative personnel dispatched, occupancy type and construction, incident commander, weather conditions, and fire suppression companies on scene. Include observations of the scene, physical evidence, indicators, point of origin and cause determination. Refer to and attach statements of those interviewed; information on insurance and policy data, if known; statements by firefighters and police officers; and attach all photography work of the incident.
- e. Write reports using the first person or use the active voice, which is cleaner and more concise.
- f. Never make a written statement without giving credit to the source of the information. Quote your source your source may be you a witness, telephone, teletype, reporter, victim, or another investigator/officer. Assigning credit will preserve your objectivity and credibility.
- g. Use direct quotes; the subject's own words are often the best information. Avoid jargon; codes, abbreviations and verbal shortcuts used in your field notes, as they do not translate well to investigative reports.



Policies & Procedures

Article 3.2

Effective Date: 07/01/2014

Revised Date:

FIRE INVESTIGATIONS

_____/_____/_____
Signature of approval

Printed name